REMARKS

Favorable reconsideration of the above-identified application is requested in view of the following remarks.

Claims 16-21 are newly added. Thus, Claims 1-21 are pending in this application, with Claims 1, 7-9, 14 and 15 being independent.

The Official Action rejects Claims 1-3 and 5-8 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,825,942, hereinafter *Miyaza*.

Miyaza discloses an image processor for providing improved readability of characters. *Miyaza* focuses on reduction and enlargement of a scanned image, and the issue of readability of the reduced/enlarged text. That is, text that was originally a readable size may be degraded and become unreadable during reduction. Beginning on column 12, line 46, of *Miyaza*, the reduction process is described. Character data present in the scanned image is detected by the character detecting section 71i of the image transformer section 71. The image processing CPU 74 recognizes the original size of the characters 51 and, based on a reduction ratio, the size of the reduced characters 52 is calculated. That is, the reduction magnification for the entire image is calculated (e.g., 1/2) and then the reduction magnification is applied to the characters 52. After the reduction size of the characters 52 is calculated, the reduced size of the characters 52 is compared to a predetermined reducible threshold value 60. If the size of the reduced characters 52 is larger than or equal to the threshold value 60, the reduced characters 52 are considered to be "readable". However, if the size of the reduced characters 52 is smaller than the reducible threshold value 60, the reduction characters 52 are not "readable", a warning is posted, and the process is stopped.

Similar to the first embodiment, a second embodiment describes a character recognition section that uses a "superimposing method" in place of the character detection section in the first embodiment. Beginning in column 13, line 38, it is described that the "superimposing method" involves the data of various characters being stored in advance and successively superimposed on the non-reduced image data. When the image data matches the data of a particular character, the image data is recognized as being a character (e.g., a, b, c, d...). Once the characters are recognized, the size of the reduced characters is compared to the reducible threshold value 60, just as in the first embodiment.

Yet another alternative embodiment described beginning in column 65, line 10, of *Miyaza* involves measuring the "unrecognized character rate", i.e., the proportion of un-reduced characters that are recognized to the number of reduced recognized characters that are recognized. That is, the characters of the un-reduced data and reduced data are recognized as described above, and if the rate of recognition meets a predetermined threshold the reduced character is "unreadable".

Further, the thirty-sixth and fortieth embodiments disclose storing data of fonts of various sizes and calling up a stored font of a size of the recognized characters to replace the recognized characters. It appears that the "size" of the font refers to the physical size of the font, rather than a predetermined font "point" size. That is, it appears that *Miyaza* only discloses measuring the characters, not determining what point font size the characters are. This is significant in that measurement of a point font size has significant advantages in the context of the present application over the mere measurement of character size, i.e., width/height. That idea is described in detail below.

The present application describes subject matter relating to image processing. Specifically, the present application deals with a situation where a scanned document may contain both pictures and text. The issue addressed is connected to shrinking the scanned image while maintaining the integrity of both the text and the picture. Paragraph [0040] of the present application describes an embodiment wherein an image receiver 400 receives image data. A magnification setter 402 sets a magnification in correspondence to a value of the magnification set by a user. A region extractor 404 divides the input image data into character regions and picture regions. Paragraph [0041] describes that the character codes and character size are recognized in an optical character recognition (OCR) processor 408 in character images in the image data. A character magnification changer 412 enlarges or reduces the character size by selecting a font data among a plurality of font data of different sizes stored in a font memory 410. The font size is selected based on the recognized character codes and character size, i.e., width and height. Paragraph [0042] of the present application describes that the picture magnification is different than the character magnification. That is, the picture magnification involves techniques such as linear interpolation, cubic convolution interpolation or the like.

Paragraph [0047] describes that oftentimes the recognized font size, e.g., 12 point, is not accurate. In the case where the font size is actually 10 point, when the scanned document (pictures and characters) are magnified, the resulting magnified 12 point text will not fit into the character area and will overrun into the picture area. That is, it is important to accurately measure the font point size. To address that issue, as described in paragraph [0044] and shown in Figs. 7 and 8 of the present application, a font point size is calculated according to the value of the font size

recognized by the optical character recognition, e.g., 12 point. Paragraph [0045] explains that the font point size is determined with a font size table 1 having font point sizes that correspond to width and height measurements, together with styles, i.e., times new roman, gothic, etc. Paragraph [0047] explains that the next step includes assuming that the detected font point size is inaccurate, e.g., 12 point, when it actually is 10 point. Paragraph [0049] explains that to ensure the accuracy of the recognized font point size a correction process is employed. In that process, the entire width of the character line is recognized and the total width of each detected font point size character according to the detected font point size, e.g., 12 point, is calculated. If the calculated total width of the point size character line for the 12 point font is larger than the recognized width of the character line in the image data, the detected font size, i.e., 12 point, is determined to be incorrect. In that case, the recognized width of the line of characters is divided by the calculated font point size character line width, and the incorrect recognized font point size is multiplied by that ratio. The resulting font point size, e.g., 10.07 point, is rounded to the nearest whole number and understood to be the correct font size, i.e., 10 point. An example of this computation as referred to in Fig. 8 is shown below.

Measured Line Width = 28.3 mm

Calculated Line Width = 33.6 mm

Detected Font Size (Corrected) = 28.3mm/33.6mm *12 point = 10.07 point

The size 10.07 point is rounded to 10 point

Once the recognized font point size is corrected, i.e., the magnification process can take place without the magnified font running over into the picture portion of the scanned image.

Claim 1 is amended to better define that the size recognizer recognizes point size of characters in the character image. Claim 1 generally defines a code recognizer that recognizes character code from a character image included in image data to be processed. A size recognizer recognizes point size of characters in a character image, and a setter sets a magnification. A magnification changer enlarges or reduces the image data according to the magnification set by the setter. A memory section stores a plurality of font data of different point sizes. A selector selects a font data of a particular point size from among the plurality of font data that is stored in the memory section based on the character code that is recognized by the code recognizer, the font point size recognized by the size recognizer and the magnification set by the setter, to match with a region of the character image in the image data. An output section outputs the font data selected by the selector.

Claims 7 and 8 are amended in a similar manner to Claim 1 and are directed toward a method and a computer readable medium, respectively, and are generally directed toward recognition of character code from a character image included in image data to be processed, recognition of point size of characters in the character image, setting of a magnification, selection of font data of a particular point size from among a plurality of font data of different point sizes based on the recognized character code, the font point sizes and the set magnification to match with the region of the character image in the image data, and output of the selected font data.

Miyaza does not disclose the claimed recognition of point size of characters in a character image. Rather, *Miyaza* at best recognizes the physical diemnsions, i.e., width/height of characters in the image data. Recognizing the physical dimensions of a character is much different/simpler than the claimed recognition of font point size

because each point size has a specific height and width dimension at a specific ratio, whereas the different dimensions of a character are limitless. That is, if dimensions of a character are inaccurately measured to a small degree they could not correspond exactly to any font point size, thereby presenting a case where character size is recognized but font point size is not. That scenario illustrates a significant difference between the two recognition processes.

For at least that reason, Claim 1, 7 and 8 are allowable. Also, Claims 2, 3 and 5 are allowable at least by virtue of their dependence from allowable independent claims.

The Official Action rejects Claims 9-15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,243,549, hereinafter *Ando*, in view of *Miyaza*.

Claim 9 defines an image processor having a combination of features including an instruction section which instructs to output image data of N pages to be processed in M sheets of recording medium, wherein N and M are natural numbers and N is not equal to M. Claims 14 and 15 are directed toward a method and a computer readable program, respectively. They define combinations of features generally directed toward instruction of outputting image data of N pages to be processed in M sheets of recording medium, wherein N and M are natural numbers and N is not equal to M, and recognition of character code from a character image included in the image data of N pages. *Ando* is relied upon in the Official Action for a disclosure of these features.

Claims 9, 14 and 15 are amended is a similar manner to Claims 1, 7 and 8. The combination of features defined by Claim 9 also includes a code recognizer that recognizes character code from a character image included in the image data of N

pages and recognizes a point size of the character code, a memory section which stores a plurality of font data, a selector which selects font data from among the plurality of font data stored in the memory section based on the character code recognized by the code recognizer, the font point size recognized by the code recognizer and the magnification set by the setter, to match with a region of the character image in the image data, a synthesizer which generates output image data by laying out the font data selected by the selector in the M sheets, and an output section which outputs the output image data generated by the synthesizer. The combinations of features defined by Claims 14 and 15 also include features generally directed toward recognition of character code from a character image included in the image data of N pages and recognition of a point size of the recognized character code, selection of font data from among a plurality of font data based on the recognized character code, generation of output image data in a layout of M sheets by using the selected font data, and outputting of the generated output image data.

Miyaza is relied upon in the Official Action for a disclosure of these features in similar fashion as applied to Claims 1, 7 and 8 discussed above. For similar reasons as set forth above with regard to Claims 1, 7 and 8, *Miyaza* does not disclose at least recognition of character code from a character image included in the image data of N pages and recognition of the point size of the recognized character code, and selection of font data from among a plurality of font data stored in a memory section based on a recognized character code and the point size of the recognized character code, which is generally included in Claims 9, 14 and 15.

Claims 10-13 are allowable at least by virtue of their dependence from allowable independent claims, and because they define features that additionally define over the cited disclosures.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Miyaza* in view of U.S. Patent No. 5,533,174, hereinafter *Flowers*. The Official Action relies on *Flowers* for a disclosure of a communication section which communicates with an external apparatus, wherein a selector selects compatible font data from among a plurality of font data stored in the external apparatus via the communication section. Claim 4 depends from Claim 1 and is allowable for at least the same reasons because *Flowers* does not satisfy the deficiencies of the rejection of Claim 1 discussed above. Also, Claim 4 defines features that further distinguish over the cited disclosures.

New Claims 16-21 define combinations of features that are not disclosed or suggested by the cited documents alone or in combination.

For the reasons stated above, it is requested that all the objections and rejections be withdrawn and that this application be allowed in a timely manner.

Should any questions arise in connection with this application, or should the Examiner feel that a teleconference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned requests that he be contacted at the number indicated below.

Respectfully submitted,

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